

Initial Conference Call for ENERGY STAR® Monitor Test Method Committee
Thursday June 6, 2002

ENERGY STAR wishes to thank all Committee members who were able to participate in the first Monitor Test Method Committee Conference Call. A list of participants follows after the notes.

Key Points Raised During the Call

- EPA to review ISO 9241 (Parts 3, 8, and 11), the June 2001 VESA specification, and TCO's visual ergonomics testing procedures to pull out pertinent information.
- As pointed out by Industry, ISO performance standards can be met by virtually any visual display.
- As suggested by EPA and agreed to by industry, key non-energy parameters should be included within the testing guidelines for on-mode power consumption, to ensure all monitors are being tested under similar conditions.
 - As suggested by industry, these non-energy parameters by themselves should be set low enough to allow many monitors to meet the ENERGY STAR specification. The energy portion of the specification should be set so as to ensure that only the top 25% of monitors meet the specification as a whole, and qualify for ENERGY STAR.
 - As suggested by industry, warranties are market-specific therefore they should not be included in the ENERGY STAR specification.
 - Industry suggests the defective pixel requirement should be left out of the specification, as these do not affect power consumption levels.

Non-energy Parameters to be Included in Testing Guidelines

- **Resolution & Refresh Rate**
 - LCDs shall be measured at their native panel resolution.
 - CRTs are measured at 85 Hz in Europe, but 75 Hz has long been the norm in North America. (Lower refresh rate also means a better score on the pixels/watt specification.)
 - TCO uses 85 Hz as their standard for CRTs, since this reduces flicker. However, going to 85 Hz increases power consumption.
 - Though most CRTs are capable of an 85 Hz refresh rate, at what resolution?

Decision still to be made on Resolution and Refresh Rates to be used.

- **Contrast & Brightness**
 - It was suggested that monitors should be tested in a dark room.
 - Very dependent on technology but should pick 'white' level, where there is a fixed light output.
 - Brightness should be set to maximum and then adjusted down until you can barely distinguish between black and gray on the screen. (Adjusted to Minimum. There are test patterns in the VESA specification that show this.)
 - Contrast should meet the minimum during an output of 100 nits of light from a white box on the screen.

Decision still to be made on final Contrast levels and minimum Brightness.

- **Test Image**
 - Want condition more like typical use, therefore 50% black and 50% white screen (as initially suggested by EPA) is not suitable.
 - 80% white screen is most suitable. TCO uses this measurement. Justification is that the majority of spreadsheet and Word programs most often have this 80% white background.
 - For CRTs, should it be a white window, or a full white field taking up the whole screen? (LCDs don't have this distribution.)
 - 80% power is to be used for base illumination.
 - 80% IRE is to be used for luminance.
 - A proposal was made by Alain d'Hautecourt (ViewSonic Corp.) to adjust brightness and contrast settings using a specified test image in order to obtain a reference brightness level, and then use that level to measure power use. This proposal

appeared to resolve industry's concerns of the effect of brightness differences on energy efficiency measurements.

Decision still to be made on final Test Image, along with illumination and luminance settings.

Next Steps

- EPA to review ISO 9241 (Parts 3, 8, and 11), the June 2001 VESA specification, and TCO's visual ergonomics testing procedures.
- EPA to review all feedback and suggestions provided both during the conference call and via e-mail, in response to questions sent out to Committee members in a preliminary e-mail.
- Industry to send any further suggestions and/or comments to EPA, along with supporting data if available.
- Second Test Method Committee conference call to be scheduled, once all necessary documents and feedback have been reviewed.

Participants in the Conference Call

- Bob Myers (Hewlett-Packard Company)
- Richard Atanus (NEC-Mitsubishi)
- Ian Miller (Samsung Electronics America, Inc.)
- Dave Traver (Sony Electronics, Inc.)
- Alain d'Hautecourt (ViewSonic Corp.)
- Dr. Jan Rudling (TCO Development)
- Arne Nilsson (TCO Development)
- Clare Hobby (TCO development)
- Kristina Bergstrand (TCO Development)
- Craig Hershberg (EPA)
- Chris Calwell (Ecos Consulting)
- Mehernaz Polad (ICF Consulting)